

**ABSTRACT**

A method of modifying the routing of lightpaths without interrupting service, scheduling long maintenance windows or the need to delete and recreate lightpath definitions is disclosed. The solution utilizes a combination of non-disruptive bridge and roll techniques and uses temporary end to end protection or segment protection to change the routing of the working or protection part of the lightpath without having to take the lightpath out of service. The solution relies on lambda level switching hardware support and software at the two endpoint nodes to coordinate in the event of an operator-initiated protection switch, the switching of connections from the working path to the protected path. Protection switching can be configured to be end to end, single segment only or multi hop protection depending on the application.